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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CAMERON, ERMA C	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/500,892	TANAKA ET AL.	
	Examiner	Art Unit	
	Erma Cameron	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claims 1 and 3: should be put into proper Markush terminology – selected from the group consisting of.

b) Claim 2: "useful" is vague in that the actual use or purpose is not known.

c) Claims 3 and 4: the use of "and/or" is vague in that it is not clear if two or more species is meant or not.

d) Claim 8: "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

e) Claim 11: there is no antecedent basis for "said metal material".

f) Claim 4: it is not clear which of the species of claim 3 "glycerylated chitosan" belongs to.

Claim Objections

3. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

"metal compound comprising" is broader language than the definition of the metal compound in claim 1, and thus does not limit claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-8 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi et al (6858312)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

'312 teaches applying an aqueous protective composition to aluminum, iron or copper that comprises chitosan or a derivative such as glyceryl chitosan and a carboxylic acid cpd and a metal cpd such as titanium oxide or other metal oxide. After application, the coated metal is dried at 130-220 C, which is encompassed by applicant's claimed range (3:1-6:54).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (6858312).

'312 is applied here for the reasons given above.

'312 teaches a dry coat weight of 0.01-10 g/m2 (10-10,000 mg/m2) (6:41-54)). Because the chitosan and carboxylic acid may be of equal weight in the composition as can be seen in Table 1-1, each would have a dry weight of 5-5000 mg/m2, which overlaps with applicant's claimed range.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. See In re Malagari 182 USPQ 549.

8. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over .Wojcik (6508958) taken in view of the admitted state of the prior art or EP 153973.

'958 teaches protecting aluminum from corrosion with an aqueous treatment solution that comprises chitosan and a carboxylic acid. After application the coating is dried at <200 degrees C (2:56-4;34).

'958 fails to teach the dry coating wt. It would have been obvious to one of ordinary skill in the art to have optimized the coating wt through no more than routine experimentation because coating wt is known to be an important parameter to control in corrosion coatings.

'958 fails to teach the presence of a metal cpd.

The admitted state of the prior art, as taught on lines 2-19 of page 4 of the specification, is that metal compounds are known as a treatment for metals.

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by the prior art to the treatment solution of '958 because of the reasoned expectation of enhanced corrosion protection when combining treatments.

'973 teaches treating metal surfaces, such as galvanized steel or Al, with Ti or Zr compounds, for corrosion protection (see Abstracts and index terms).

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by '973 to the treatment solution of '958 because of the reasoned expectation of enhanced corrosion protection when adding one treatment to another.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wojcik (6508958) taken in view of the admitted state of the prior art or EP 153973, and further in view of Kobayashi et al (6858312).

'958, the admitted state of the prior art and '973 are applied here for the reasons given above.

None of these references teach glycerated chitosan.

'312 teaches that glyceryl chitosan is a suitable derivative of chitosan to be used in a aluminum treatment solution (3:18-25).

It would have been obvious to one of ordinary skill in the art to have substituted the glyceryl chitosan of '312 for the chitosan of '958 with the reasoned expectation of at least equivalent results.

10. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-293149) taken in view of the admitted state of the prior art or EP 153973.

'149 teaches treating aluminum with a composition of chitosan and a carboxyl cpd, for anticorrosion and antifungal action (see Abstracts).

'149 fails to teach the dry coating wt or drying T. It would have been obvious to one of ordinary skill in the art to have optimized the coating wt and drying T through no more than routine experimentation because coating wt and drying T are known to be important parameters to control in corrosion coatings.

'149 fails to teach the presence of a metal cpd.

The admitted state of the prior art, as taught on lines 2-19 of page 4 of the specification, is that metal compounds are known as a treatment for metals.

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by the prior art to the treatment solution of '149 because of the reasoned expectation of enhanced corrosion protection when combining treatments.

'973 teaches treating metal surfaces, such as galvanized steel or Al, with Ti or Zr compounds, for corrosion protection (see Abstracts and index terms).

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by '973 to the treatment solution of '149 because of the reasoned expectation of enhanced corrosion protection when adding one treatment to another.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-293149 taken in view of the admitted state of the prior art or EP 153973, and further in view of Kobayashi et al (6858312).

'149, the admitted state of the prior art and '973 are applied here for the reasons given above.

None of these references teach glycerated chitosan.

'312 teaches that glyceryl chitosan is a suitable derivative of chitosan to be used in a aluminum treatment solution (3:18-25).

It would have been obvious to one of ordinary skill in the art to have substituted the glyceryl chitosan of '312 for the chitosan of '149 with the reasoned expectation of at least equivalent results.

12. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over El-Sawy et al, taken in view of the admitted state of the prior art or EP 153973.

El-Sawy teaches chitosan or a derivative such as carboxymethyl chitosan and a carboxylic cpd to protect steel from corrosion (see Abstract and sections 2.4-2.7, 3.4 and Table IV).

El-Sawy fails to teach the dry coating wt or drying T. It would have been obvious to one of ordinary skill in the art to have optimized the coating wt and drying T through no more than routine experimentation because coating wt and drying T are known to be important parameters to control in corrosion coatings.

El-Sawy fails to teach the presence of a metal cpd.

The admitted state of the prior art, as taught on lines 2-19 of page 4 of the specification, is that metal compounds are known as a treatment for metals.

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by the prior art to the treatment solution of El-Sawy because of the reasoned expectation of enhanced corrosion protection when combining treatments.

'973 teaches treating metal surfaces, such as galvanized steel or Al, with Ti or Zr compounds, for corrosion protection (see Abstracts and index terms).

It would have been obvious to one of ordinary skill in the art to have added the metal compounds as taught by '973 to the treatment solution of El-Sawy because of the reasoned expectation of enhanced corrosion protection when adding one treatment to another.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erma Cameron

ERMA CAMERON
PRIMARY EXAMINER

Erma Cameron
Primary Examiner
Art Unit 1762

October 1, 2005